

REMARKS

Applicants are in receipt of the Office Action mailed December 30, 2004. Claims 1, 3 – 18, and 20 were pending in the application. Claims 1, 3 – 18, and 20 remain pending in the application.

Claims 1, 3 – 13, 15, 18, and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cabrera et al. (USPN 6,708,227, hereinafter “Cabrera”) in view of Cochran (USPN 6,718,447, hereinafter “Cochran(1)”), Cochran (USPN 6,721,902, hereinafter “Cochran(2)”), and the Principia Cybernetic Web internet web site as of February 2000 (hereinafter “PCW”). Claims 14, 16, and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Cabrera in view of Cochran(1), Cochran(2), and PCW, and in further view of Gregg (USPN 5,938,786).

As noted in a response to the previous Office Action, Applicants can find no teaching or suggestion in Cabrera, Cochran(1), Cochran(2), or PCW, either separately or in combination, of a method comprising **“receiving, from the application programming interface, a freeze list with one or more freeze methods appropriate for freezing the storage object, wherein each freeze method includes a measure of quiesce strength,”** as recited in Applicants’ claim 1.

There is no mention of a “list of freeze methods” being returned by any function or method in any of the cited art. The Examiner acknowledges that Cabrera does not teach that the API returns a list of methods appropriate for making the snapshot, where each method includes a measure of quiesce strength (page 3 of the Office Action).

Cochran(1) also does not mention a list of freeze methods. Lines 11-32 of Column 4 of Cochran, cited by the examiner, teach that transactional inconsistency may occur between a LUN backup snapshot and a primary, but this has nothing to do with providing a list of one or more freeze methods with associated quiesce strengths.

Cochran (2) likewise does not mention a list of freeze methods. The Examiner asserts that Column 4, line 57 through column 5, line 7 of Cochran (2) teach that transactional consistency is likely to result “due to the inability to reliably quiesce the primary and backup storage objects” (Page 4 of the Office Action). However, the cited lines of Cochran (2) teach that “once mirroring is disabled, or split, subsequent write operations may change the state of the mirror copy” and that “these **subsequent** write operations may be accidentally generated by the application system”, leading to a possible corrupted representation of the primary data object “following a restore operation”, not “due to the inability to reliably quiesce the primary” as suggested by the Examiner. Cochran teaches “storing a backup object on a locked LUN”, and “determining whether the LUN is still locked prior to employing the backup object in a restore operation” (Column 5, lines 25 – 30), but this has nothing to do with providing lists of freeze methods.

The Examiner further asserts that “a skilled practitioner in the art would recognize that the introduction of a semaphore as in Cochran (2) also introduces the potential for deadlocks”. Even if “a potential for deadlocks” were recognized by a skilled practitioner based on Cochran, such a potential for deadlocks would not suggest supplying a list of freeze methods, or including quiesce strengths with freeze methods.

The Examiner additionally asserts that “one skilled in the art would expect the potential for transactional inconsistency and deadlocks to be present in the system of Cabrera, and that such potential would depend upon the particular combination of service providers used in making the snapshot, thereby making the use of certain combinations more likely to result in undesired behavior.” Applicants respectfully disagree, and can find absolutely no basis in the cited art for this assertion. Applicants request that the Examiner either identify a reference to substantiate this assertion or withdraw the rejection. The Examiner is no doubt aware that to establish a prima facie obviousness of a claimed invention, all claim limitations must be taught or suggested by the prior art. In re Royka, 490 F.2d 981, 180 U.S.P.Q. 580 (C.C.P.A. 1974), MPEP 2143.03. Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion or incentive to

do so. In re Bond, 910 F. 2d 81, 834, 15 USPQ2d 1566, 1568 (Fed. Cir. 1990). The art cited by the Examiner does not, singly or in combination, teach or suggest all limitations of the currently pending Claim 1, such as providing a list of freeze methods including quiesce strengths.

The Examiner further asserts that it would have been obvious “to apply the decision theory of PCW, in the system made obvious by the combination of Cabrera and Cochran(1,2), such that the risk of transactional inconsistency and deadlocks associated with particular combinations of service providers used in making a snapshot is reflected in a quiesce strength (i.e. risk ranking), in order to make an informed decision about which alternative to choose as taught by PCW.” Applicants respectfully remind the Examiner that, as held by the U.S. Court of Appeals for the Federal Circuit in Ecolochem Inc. v. Southern California Edison Co., an obviousness claim that lacks evidence of a suggestion or motivation for one of skill in the art to combine prior art references to produce the claimed invention is defective as hindsight analysis. PCW provides a broad description of decision theory, including a value function that introduces an ordering on the set of consequences and thus ranks alternatives. However, Applicants can find no teaching or suggestion in PCW or the other references cited by the Examiner as to why or how a person of skill in the art would combine the broad field of decision theory as taught in PCW in any particular way with the teachings of Cabrera, Cochran(1) or Cochran(2) related to snapshots to obtain the limitations recited in Claim 1. Even if the teachings of PCW were combined with Cabrera, Cochran(1) and/or Cochran(2), Applicants respectfully submit that the limitation of providing a list of freeze methods with associated quiesce strengths would not be obvious, as neither Cabrera, Cochran(1) nor Cochran(2) teaches or suggests a provision of alternate freeze methods including quiesce strengths.

Still further, the Examiner asserts that “it would have been obvious to provide such information as a return value from the API of Cabrera, as such teachings are well known in the art for the purpose of interaction between applications and underlying processes managed by an API, noting that the possible alternatives would comprise a list of snapshot methods.” Once again, Applicant again can find no teaching or suggestion in any of the cited art to support this assertion of the Examiner. None of the cited art teaches or suggests an API to obtain a list of

freeze methods. Applicants assert that the fact that an API is mentioned in Cabrera does not make the limitation of a specific API **that returns a list of freeze methods** obvious.

Accordingly, claim 1 along with its dependent claim 3 is believed to patentably distinguish over the cited references for at least the reasons given above. In addition, claims 4, 7, 9, 11, 13, 16 and 18 recite features similar to those of claim 1, and are likewise believed to patentably distinguish over the cited references, along with their respective dependent claims, for at least the same reasons.

CONCLUSION

Applicant submits the application is in condition for allowance, and an early notice to that effect is requested.

If any extensions of time (under 37 C.F.R. § 1.136) are necessary to prevent the above referenced application(s) from becoming abandoned, Applicant(s) hereby petition for such extensions. If any fees are due, the Commissioner is authorized to charge said fees to Meyertons, Hood, Kivlin, Kowert, & Goetzel, P.C. Deposit Account No. 50-1505/5760-17800/BNK.

Respectfully submitted,



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Date: 2-28-05